

ON BEHALF OF DPR, SPCB,
U.S. EPA AND CACASA

WELCOME TO 2003
STRUCTURAL PEST
CONTROL ENFORCEMENT
PROGRAM TRAINING







and...the Credits for this training
go to:

- Dennis Patzer, SPCB
- Marylou Verder-Carlos, DPR
- Harvard Fong, DPR
- Mario Ibarra, DPR
- Peggy Byerly, DPR
- Mostafa Chrichi, DPR
- Shelley Lopez, DPR
- Dianne Stuhldreher, Sacramento County
- Melinda Al -Alami, Los Angeles County
- Rick Walsh, San Diego County



What we will be learning
Today...

- USEPA Overview
- History/Authority and Interagency Relationship
- Dow AgroSciences
- Personal Protective Clothing
- Symptoms of poisoning
- Records Inspection and Problems
- SPCB Perspective Branch/License Differences
- SD County fume Investigation
- LA case
- "Who wants to be a Senior" Game



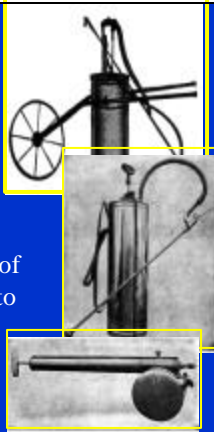
AGENDA - DAY 2

<u>MORNING SESSION</u>	<u>AFTERNOON SESSION</u>
<ul style="list-style-type: none"> • Branch 2, 3 Truck Inspection (Field) • Branch I Fumigation Application (Field) 	<ul style="list-style-type: none"> • Inspection Review/ Discussion • Branch I Fumigation Aeration Presentation • New and Proposed SPCB Regulations • Closing and questions



HISTORY

- 1901 - First law for pesticides
 - Paris Green for drywood termites
- 1935 - The Department of Agriculture is authorized to regulate pesticides
 - Enforcement is assigned to County Agricultural Commissioners (CACs)



HISTORY

- 1936 - Legislation created the Structural Pest Control Act, known as the “Blue Book”
- 1936 - First conviction for operating without a license
 - 30 days in jail + \$50.00 fine



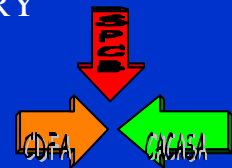
HISTORY

- 1976 - Funding from US EPA allowed the first urban structural inspection by a CAC



HISTORY

- 1981 - CDFA, CACA and SPCB interagency agreement to perform enforcement
- 1984 - Structural Pest Control Enforcement Program is established through legislation



REQUIREMENT

- B&P code § 8616
 - SPCB and DPR shall train all inspectors and investigators
- No disciplinary action on B&P code § 8617 until training is complete



AUTHORITY

- FAC § 15201
- Enabling law
- Joint responsibility between DPR, SPCB and CACs to regulate all structural pesticide activities



AUTHORITY

- B&P Code § 8616.4
 - Designates DPR as agent and authorizes CACs to perform inspections



AUTHORITY

- B&P Code § 8617
 - Right to suspend a license or levy a fine



ORGANIZATION

- CalEnvironmental Protection Agency
- Department of Pesticide Regulation
 - Enforcement Branch
 - County Agricultural Commissioner
- Structural Pest Control Board
- Department of Consumer Affairs
- Consumer Service Agency

WHAT IS STRUCTURAL PEST CONTROL ?

- Definition: B&P Code § 8505
 - Control of household and wood destroying pests which invade households, other structures and their contents
 - Conduct Inspections
 - Identify infestations
 - write reports, make recommendations, submit bids and estimates



LICENSE CLASSIFICATION

- Branch I - Fumigation
- Branch II - General Pest Control
- Branch III - Termite Control



LICENSE CLASSIFICATION



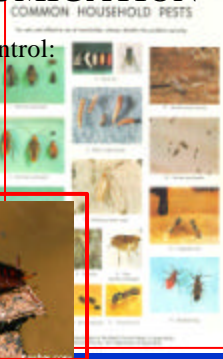
- Branch I - Fumigation
 - Operator
 - Field Representative
- Branch II - General Pest
 - Operator
 - Field Representative
 - Applicator
- Branch III - Termite Control
 - Operator
 - Field Representative
 - Applicator






BRANCH I -FUMIGATION

- Use of lethal gases to control:
 - Termites
 - Wood boring insects
 - Other household pests

BRANCH I -FUMIGATION

- Two most commonly used fumigants :
 - Sulfuryl Fluoride (Vikane®)
 - Methyl Bromide
- Chloropicrin used as a warning agent




BRANCH II General Pest Control

- Household, Industrial, Institutional and Commercial (excluding fumigants, termiticides and wood preservatives)



BRANCH II General Pest Control

- Typical pests controlled include:
 - Yard pests
 - Ants, Earwigs, Crickets
 - Noxious pests
 - Spiders, Fleas, Ticks



BRANCH II General Pest Control

- Typical pests controlled include (cont.):
 - Stored products pests
 - Indian Meal Moth, Cigarette Beetle, Saw toothed Grain Beetle
 - Fabric pests
 - Clothes moth, Carpet Beetle
 - Rodents



BRANCH III Termite Control



- Inspect for wood destroying pests and organisms in:
 - Homes
 - Commercial Structures and
 - for Real Estate transactions
- Make recommendations
- Perform structural repairs
- Apply termiticides and wood preservatives



LICENSES

- The SPCB registers companies and licenses people.
- Licensed people include:
 - Operator
 - Field Representative
 - Applicator (Branch II and III only)



LICENSES Operator

- An operator may:
 - own or qualify a company
 - identify pests
 - negotiate contracts
 - apply pesticide
- An example of a typical license number: OPR 9999



LICENSES Field Representative

- A licensed Field Representative may:
 - identify pests
 - negotiate contract
 - apply pesticide
- An example of a typical license number: FR 9999



LICENSES Applicator

- A licensed Applicator may:
 - Apply pesticides in Branch II & III
- Fumigants can only be applied by Operators and Field Representative.
- An example of a typical license number: RA 9999



UNLICENSED ACTIVITIES

- Performing work beyond the scope of the license
- Performing work without a license
- Applying pesticides outside the scope of structural use



DOWAGROSCIENCES
Barbara Snowden



SYMPTOMS OF POISONING

Marylou Verder-Carlos
DPR
DK



Skin Irritants

- Insecticides and Miticides
- Herbicides
- Other Irritants
 - Fumigants
 - Plant dermatitis



Photos from O'Malley, Maibach, Homeros, Pesticide Dermatoses

Skin Irritants

- Insecticides and Miticides
 - Chlorpyrifos
 - From 1982-1983, 25 cases of dermatitis were attributed to exposure to chlorpyrifos, three cases documented to have been most likely caused by exposure
 - One case in 1992 had moderate irritation due to direct exposure
 - Data somewhat ambiguous, only transient irritation according to studies



Skin Irritants

- Insecticides and Miticides
 - Diazinon
 - Has been reported to have moderate capacity as a skin irritant
 - PISP cases recorded dermatitis especially on exposures by direct contact
 - Studies also show it has moderate capacity as a skin sensitizer

Skin Irritants

- Insecticides and Miticides
 - Propoxur (Baygon®)
 - Not known as a sensitizer or irritant; inert ingredients may cause irritation.



Skin Irritants

- Insecticides and Miticides
 - Isopropylphenyl-N-Methylcarbamate
 - 1966, Nigeria, several people experienced dermatitis from an experimental structural pest program.



Skin Irritants

- Insecticides and Miticides
 - Malathion
 - Causes temporary skin irritation
 - Appears to be a weak allergic contact sensitizer

Skin Irritants

- Insecticides
 - DDVP
 - May cause primary irritant contact dermatitis
 - Pyrethrins/Pyrethrums
 - Mostly used for indoor application
 - Known to cause irritation and sensitization
 - May cause rash, itching or blisters



Skin Irritants

Pyrethrins/Pyrethrum
s- accidental direct exposure to bioresmethrin and pyrethrins
- minimal dermatitis 5 days after exposure
- more pronounced symptoms after days.



Skin Irritants



- Insecticides
 - Synthetic pyrethroids
 - Longer duration of action than pyrethrins
 - May cause temporary paresthesias (numbness, itching, burning, tingling, warmth)
 - May cause these symptoms even without visible redness or rash.

Skin Irritants

- Other Irritants
 - Fumigants
 - Methyl Bromide can cause skin burns and irritation
 - Sulfuryl Fluoride (Vikane ®) can cause frost bite on direct contact.



Blistering dermatitis of the foot associated with application of methyl bromide

Skin Irritants

- Other Irritants
 - Plant Dermatitis
 - poison oak



Skin Irritants

- Other Irritants
 - Plant Dermatitis
 - cocklebur



Skin Irritants

- Other Irritants
 - Plant Dermatitis
 - Velvet leaf



Skin Irritants

- Other Irritants
 - Plant Dermatitis
 - Mayweed



Organophosphates and carbamates

- Compare and contrast
- Toxicity
- Signs and Symptoms
- Treatment
- Cholinesterase Tests



Organophosphates and carbamates

- Compare and contrast
 - Both are cholinesterase inhibitors
 - Both cause the same symptoms
 - Both are treated with atropine
 - Carbamates dissociate from cholinesterase resulting in reactivation
 - Protopam (2-PAM) is recommended only for OP toxicity

Approximate Toxicity of Cholinesterase Inhibitors

Compound	Oral LD 50 (mg/kg)	Dermal LD50 (mg/kg)
Organophosphates		
Phorate (Thimet)	2 to 4	20 to 30
Disulfoton (Disyston)	2 to 12	6 to 25
Fensulfothion (Dasanit)	2 to 10	3 to 30
Demeton (Systox)	2.6 to 6	8.2 to 14
Mevinphos (Phosdrin)	3 to 12	16 to 33
Parathion	4 to 13	55
Azinphos-methyl	5 to 20	220
Fenamiphos (Nemacur)	8.1 to 9.6	178 to 225
Methyl parathion	9 to 25	300 to 400

Approximate Toxicity of Cholinesterase Inhibitors

Compound	Oral LD50 (mg/kg)	Dermal LD50 (mg/kg)
Methamidophos	18 to 21	118
Methidathion	44	200
Dichlorvos (DDVP)	56 to 80	75 to 107
Oxydemeton-methyl	65 to 75	350
Propetamphos (Safrotin)	119	2300
Phosalone	120	1530
Phosmet	147 to 316	>4640
Dimethoate	215	>100
Diazinon	300 to 400	3600
Naled	430	1110
Acephate	866 to 945	>10,250
Malathion	1000 to 1375	4100

Approximate Toxicity of Cholinesterase Inhibitors

Compound	Oral LD50 (mg/kg)	Dermal LD50 (mg/kg)
N-Methyl Carbamates		
Aldicarb (Temik)	0.9	>5
Oxamyl (Vydate)	5.4	30
Carbofuran (Furadan)	11	>10,000
Methomyl (Lannate)	17 to 24	
Propoxur (Baygon)	95 to 104	>500
Carbaryl (Sevin)	246 to 283	

Cholinesterase Inhibitors

- Specific Symptoms of Inhibition
 - Eyes - pinpoint pupils, tearing, blurred vision, discomfort
 - Sweating
 - Respiratory – wheezing, cough, shortness of breath, lung secretions
 - Cardiac – slow heart rate (bradycardia)
 - GI – Salivation, nausea, vomiting, diarrhea, fecal incontinence, abdominal pain
 - GU – urinary incontinence, frequency

Which signs and symptoms can help make a diagnosis?

- Some signs are specific and can be used as good clues
 - Excessive salivation
 - Tearing
 - Muscle twitching and weakness
 - Pupil constriction
 - Urinary incontinence
 - Fecal incontinence
 - Smell of hydrocarbon constituents

Non-specific symptoms

- Headache
- Nausea
- Vomiting
- Difficulty breathing
- Flu-like symptoms

